State of Utah

Department of
Environmental Quality
Richard W. Sprott
Executive Director

DIVISION OF AIR QUALITY
Cheryl Heying
Director

JON M. HUNTSMAN, JR.
Governor

GARY HERBERT
Lieutenant Governor

DAQE-IN0103970012-08

April 1, 2008

Jennifer L. Reo
Northrop Grumman Guidance and Electronics Company, Inc.
2211 West North Temple
Salt Lake City, Utah 84116

Dear Ms. Reo:

Re: Intent to Approve: Modify AO DAQE-AN0397011A-05 for the Removal of Equipment
Salt Lake County – CDS B; NA; MAINT; HAPs
Project Code: N010397-0012

The attached document is the Intent to Approve for the above-referenced project. The Intent to Approve is subject to public review. Any comments received shall be considered before an Approval Order is issued.

Future correspondence on this Intent to Approve should include the engineer's name as well as the DAQE number as shown on the upper right-hand corner of this letter. Please direct any questions you may have on this project to Mr. Nando Meli. He may be reached at (801) 536-4052.

Sincerely,

John T. Blanchard, Manager
Minor New Source Review Section

JTB:NM:sa

cc: Salt Lake Valley Health Department

STATE OF UTAH

Department of Environmental Quality

Division of Air Quality

INTENT TO APPROVE: Modify AO DAQE-AN0397011A-05 for the Removal of Equipment

Prepared By: Nando Meli, Engineer
(801) 536-4052
Email: nmeli@utah.gov

INTENT TO APPROVE NUMBER

DAQE-IN0103970012-08

Date: April 1, 2008

Northrop Grumman Guidance and Electronics Company, Inc.

Source Contact
Jennifer Reo
(801) 323-6586

M. Cheryl Heying
Executive Secretary
Utah Air Quality Board

Abstract

Northrop Grumman Guidance and Electronics Company, Inc., (formerly Litton Guidance and Control Systems) manufactures guidance and control systems for aircraft at their Navigation Systems plant in Salt Lake City. Northrop Grumman Guidance and Electronics Company, Inc. has requested a modification to their Approval Order DAQE-AN0397011A-05 for the removal of equipment. They have removed the vapor phase recovery unit and the tinning machine. There will be no increase in emissions from this modification. The Navigations Systems plant is located in Salt Lake County, and Salt Lake County is a Non-attainment area of the National Ambient Air Quality Standards (NAAQS) for PM_{10} and SO_2, and is a Maintenance area for Ozone. Salt Lake City is a Maintenance Area for CO. New Source Performance Standards (NSPS), National Emission Standards for Hazardous Air Pollutants (NESHAP) and Maximum Available Control Technology (MACT) regulations do not apply to this source. There will be no change in the allowable emissions from this modification.

The Notice of Intent (NOI) for the above-referenced project has been evaluated and has been found to be consistent with the requirements of the Utah Administrative Code Rule 307 (UAC R307). Air pollution producing sources and/or their air control facilities may not be constructed, installed, established, or modified prior to the issuance of an Approval Order (AO) by the Executive Secretary of the Utah Air Quality Board.

A 30-day public comment period will be held in accordance with UAC R307-401-7. A notice of intent to approve will be published in the Salt Lake Tribune and Deseret News on April 5, 2008. During the public comment period the proposal and the evaluation of its impact on air quality will be available for both you and the public to review and comment. If anyone so requests a public hearing, it will be held in accordance with UAC R307-401-7. The hearing will be held as close as practicable to the location of the source. Any comments received during the public comment period and the hearing will be evaluated.

Please review the proposed AO conditions during this period and make any comments you may have. The proposed conditions of the AO may be changed as a result of the comments received. Unless changed, the AO will be based upon the following conditions:

General Conditions:

1. This AO applies to the following company:

   Site Office
   Northrop Grumman Guidance and Electronics Company, Inc.
   2211 West North Temple
   Salt Lake City, Utah 84116

   Phone Number (801) 539-1200
   Fax Number (801) 539-7640

   The equipment listed in this AO shall be operated at the following location:

   2211 West North Temple Salt Lake City, Utah

   Universal Transverse Mercator (UTM) Coordinate System: UTM Datum NAD27
   4,513.7 kilometers Northing, 419.6 kilometers Easting, Zone 12

2. All definitions, terms, abbreviations, and references used in this AO conform to those used in the UAC R307 and Title 40 of the Code of Federal Regulations (40 CFR). Unless noted otherwise, references cited in these AO conditions refer to those rules.

3. The limits set forth in this AO shall not be exceeded without prior approval in accordance with R307-401.

4. Modifications to the equipment or processes approved by this AO that could affect the emissions covered by this AO must be reviewed and approved in accordance with R307-401.

5. All records referenced in this AO which are required to be kept by the owner/operator, shall be made available to the Executive Secretary or Executive Secretary's representative upon request, and the records shall include the two-year period prior to the date of the request. Records shall be kept for the minimum period of two years.

6. Northrop Grumman Guidance and Electronics Company, Inc., (Northrop Grumman) shall conduct its operations of the Navigation Systems plant in accordance with the terms and conditions of this AO, which was written pursuant to Northrop Grumman's NOI submitted to the Division of Air Quality (DAQ) on March 7, 2008, and additional information submitted to DAQ on March 20, 2008.

7. This AO shall replace the AO (AN0397011A-05) dated January 28, 2005.

8. The approved installations shall consist of the following equipment or equivalent*:

   A. Inline Cleaners

   B. Wave Solder Machines

   C. Solder Pots

   D. Grit blasters. The grit blasters are exhausted into the house vacuum system. The grit blast material if hazardous will be disposed of accordingly.[@]

      [@]All grit blast material is collected and disposed of properly in accordance with the State of Utah Hazardous Waste Management Requirements.

      Northrop Grumman may remove, replace or relocate the grit blasters if there will be no increase in emissions from such action.

   E. There are 14 spray booths vented through the roof. One walk-in spray booth and thirteen bench top spray booths. Northrop Grumman may remove, replace or relocate the spray booths if there will be no increase in emissions from such action.

F. Paint Booth

1)	Filter Type	Binks over spray collection filter
2)	Filter Area size	36 ft^2 [@]
3)	Air Volume	1,500 cfm[@]

[@] This equipment specification is listed for informational purposes only.

G. House Vacuum System

Manufacturer

Hoffman Centrifugal Exhauster
Hoffman Centrifugal Exhauster[@]
Spencer Centrifugal Separator

[@]Used as a backup system

H. Natural Gas Boilers and Heaters**

Boiler Type	Manufacturer	Input (MMBTU/hr
Steam	Peerless	2.10
Steam	Bryan	0.65
Steam	Bryan	0.65
Steam	Bryan	0.65
Hot Water	Bryan	3.00
Hot Water	Bryan	3.00
Hot Water	Bryan	3.00
Hot Water	Bryan	1.05

Miscellaneous Natural Gas Fired Heaters

I. Emergency Generators

Manufacturer	Kilowatts	Fuel
Kohler	33	Natural Gas
Kohler	30	Natural Gas
Kohler	80	Natural Gas
Olympian	75	Natural Gas

J. Electric Bake Ovens in various locations**

Numerous electric bake ovens are placed around the facility and are tied into small vacuum pumps to decrease the atmospheric pressure and vented to the outside to prevent any products in the clean rooms from being negatively effected from trace amounts of pump oil. Bake ovens are routinely moved around the facility for calibration, repair or replacement. All other ovens are tied to oil-less vacuum pumps, which are not vented to the outside of the building.

Northrop Grumman may remove, replace or relocate the bake ovens if there will be no increase in emissions from such action.

K. Fume hoods in various locations

L. Exhaust Filtration System on the Chemical Building

Manufacturer	ECO-AIR Products
Air Flow	4400 cfm[@]
Filter Size	12 sections with 12 trays per section containing 90 lbs of virgin carbon per section (24" H x 24" W)[@]
Pre-Filters	12 pre-filters with 24" x 24" x 2" thick pre-filters[@]

[@] This equipment specification is listed for informational purposes only.

M. Miscellaneous Equipment not listed in above categories is as follows:

Equipment	Room Number
Card Coating Equipment	1038
CHA Industries Mark 50 Coating Chambers	
Conformal Coat Machine	
Isopropyl Alcohol Agitator	
Touch Up Booth	
Plasma Etch Machines**	
Non-flammable Vapor Degreasers**	

* Equivalency shall be determined by the Executive Secretary.
** This equipment is listed for informational purposes only.

Limitations and Tests Procedures

9. Visible emissions from all emission points or fugitive emission sources associated with the installation or control facilities shall not exceed 10% opacity. Opacity observations of emissions from stationary sources shall be conducted in accordance with 40 CFR 60, Appendix A, Method 9.

10. The combined fuel consumption for all fuel-fired equipment listed in Condition #8 above shall not exceed 50,000 decatherms of natural gas per 12-month period.

Compliance with the annual limitations shall be determined on a rolling 12-month total. By the 15th day of each month, a new 12-month total shall be calculated using the previous 12 months. Records of consumption shall be kept for all periods when the plant is in operation. Natural gas consumption shall be determined by examination of gas meter records and purchase orders. The records shall be kept on a monthly basis.

Fuels

11. The owner/operator shall only use natural gas as a fuel for the boilers.

Volatile Organic Compound (VOC) and Hazardous Air Pollutants (HAPs) Limitations

12. The paint spray booth shall be equipped with a set of paint arrestor particulate filters to control particulate emissions or equivalent. All air exiting the booth shall pass through this control system before being vented to the atmosphere.

13. The plant-wide emissions of VOCs and HAPs from the paint booths, degreasers, manufacturing facility and associated operations shall not exceed:

9.50 tons per calendar year for VOCs
9.75 tons per calendar year for all HAPs combined
1.50 tons per calendar year for 1,1,1-Trichloroethane
1.20 tons per calendar year for Methanol
0.01 tons per calendar year for Lead Compounds

Amount of VOCs and HAPs emitted on a yearly basis and summed for the entire plant by January 31st of each calendar year for the previous calendar year. The plant wide emissions of VOCs and HAPs shall be determined by maintaining a record of VOC and HAP containing materials used during each calendar year. The record shall include the following data for each material used:

A. Name of the VOC and HAPs emitting material, such as: paint, adhesive, solvent, thinner, reducers, chemical compounds, toxics, isocyanates, etc.

B. Density of each material used (pounds per gallon)

C. Percent by weight of all VOC and HAP in each material used

D. Gallons of each VOC and HAP emitting material used

E. The amount of VOC and HAP emitted monthly by each material used shall be calculated by the following procedure:

$$\text{VOC} = \frac{\%\ \text{VOC by Weight}}{(100)} \times [\text{Density (lb)}] \times \text{Gal Consumed} \times \frac{1\ \text{ton}}{2000\ \text{lb}}$$

$$\text{HAP} = \frac{\%\ \text{HAP by Weight}}{(100)} \times [\text{Density (lb)}] \times \text{Gal Consumed} \times \frac{1\ \text{ton}}{2000\ \text{lb}}$$

F. The amount of VOC or HAP emitted monthly from all materials used

G. The amount of VOCs or HAPs reclaimed for the month shall be similarly quantified and subtracted from the quantities calculated above to provide the monthly total VOC or HAP emissions.

Records & Miscellaneous

14. At all times, including periods of startup, shutdown, and malfunction, owners and operators shall, to the extent practicable, maintain and operate any equipment approved under this AO including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Executive Secretary which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source. All maintenance performed on equipment authorized by this AO shall be recorded.

15. The owner/operator shall comply with R307-107. General Requirements: Unavoidable Breakdowns.

The Executive Secretary shall be notified in writing if the company is sold or changes its name.

Under R307-150-1, the Executive Secretary may require a source to submit an emission inventory for any full or partial year on reasonable notice.

This AO in no way releases the owner or operator from any liability for compliance with all other applicable federal, state, and local regulations including R307.

A copy of the rules, regulations and/or attachments addressed in this AO may be obtained by contacting the DAQ. The UAC R307 rules used by DAQ, the NOI guide, and other air quality documents and forms may also be obtained on the Internet at the following web site:

http://www.airquality.utah.gov/

The annual emission estimations below include point source, fugitive emissions and do not include fugitive dust, road dust, tail pipe emissions, and grandfathered emissions. These emissions are for the purpose of determining the applicability of Prevention of Significant Deterioration, non-attainment area, maintenance area, and Title V source requirements of the R307. They are not to be used for determining compliance.

The Potential To Emit (PTE) emissions for the Northrop Grumman Guidance and Control System plant are currently calculated at the following values:

	Pollutant	Tons/yr
A.	PM_{10}	2.70
B.	SO_2	3.00
C.	NO_x	18.00
D.	CO	20.00
E.	VOC	9.50
F.	Ozone Depleting Compounds	
	Freon	1.5
	1,1,1-Trichloroethane (HAP)	1.5
	Total	3.0

G. Hazardous Air Pollutants (HAPS)
Miscellaneous HAPs 9.50
Ozone Depleting HAP
1,1,1-Trichloroethane 1.50
Total HAPs 11.00
H. Non-HAP Pollutants with Threshold
Limit Values (TLV) 0.07

The DAQ is authorized to charge a fee for reimbursement of the actual costs incurred in the issuance of an AO. An invoice will follow upon issuance of the final AO.

Sincerely,

John T. Blanchard, Manager
Minor New Source Review Section